



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: AOKI, Yoshi et al.

Serial No.: 10/090,612

Filed: March 6, 2002

Group Art Unit: 2821

Examiner: HO, TAN

P.T.O. Confirmation No.: 4974

For. HIGH FREQUENCY SEMICONDUCTOR DEVICE

INFORMATION DISCLOSURE STATEMENT AND STATEMENT  
PURSUANT TO 37 CFR 1.97(d)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attn: Group Director

September 16, 2003

Sir:

The attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached Form PTO-1449. One copy of each of these documents is attached.

This Information Disclosure Statement is submitted after the mailing of a final action, a Notice of Allowance, or an action that otherwise closes prosecution in the application, but on or before payment of the Issue Fee.

The undersigned hereby certifies

XX that each item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement, or

\_\_\_ that no item of information contained in this statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the

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undersigned after making reasonable inquiry, no information contained in this statement was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this statement.

The above information is presented so that the Patent and Trademark Office can, in the first instance, determine any materiality thereof to the claimed invention. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the documents cited in the attached Form PTO-1449 be made of record therein and appear on the first page of any patent to issue therefrom.

A check is attached hereto which covers the \$180.00 fee set forth in 37 CFR § 1.17(p). The Commissioner is hereby authorized to charge any additional fee (or credit any overpayment) associated with this Statement to our Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: PTO-1449  
Copy of the Office Action from JPO w/Translation  
6 References  
\$180.00 fee



This application should be refused for the reason mentioned below. If the applicant has any argument against the reason, such argument should be submitted within sixty days (two months) from the date on which this notification was dispatched.

#### REASON

##### Reason 1:

The invention in the claims listed below of the subject application should not be granted a patent under the provision of Patent Law Section 29(2) since it could have easily been made by persons who have common knowledge in the technical field to which the invention pertains, on the basis of the invention described in the publications listed below which was distributed in Japan or foreign countries prior to the filing of the subject application.

##### Reason 2:

The description of claims of the subject application does not satisfy the requirement of the provision of Patent Law Section 36(6), 1, in the following points.

##### Reason 3:

The description of claims of the subject application does not satisfy the requirement of the provision of Patent Law Section 36(6), 2 in the following points.

##### Reason 4:

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The description of specifications and accompanying drawings of the subject application does not satisfy the requirement of the provision of Patent Law Section 36(4) and 36(6), 2 in the following points.

NOTE

(The list of cited documents etc. is shown below.)

Claims: 1, 2

Reason: 1

Cited documents: 1 to 4

Remark: 1

An antenna having a patch electrode formed on the grounded conductor via a dielectric material substrate, a power feeding pin connected to the patch electrode through the grounded conductor and a power feeding line provided under the grounded conductor and connected to the power feeding pin is described in the cited document 1.

Connection between conductors separated by an insulation layer via a through hole in the patch antenna is a commonly known technology as described in the cited documents 1 to 3. Therefore, it can be realized easily by those who are skilled in this art to provide a through hole in place of the power feeding pin.

Moreover, the technical means to provide a dielectric material substrate having an antenna element on a semiconductor substrate is described in the paragraphs [0013] and [0025] of the cited document 4.

Claims: 4 to 6

Reason: 1

Cited documents: 1 to 4

Remark: 2

See the paragraphs [0019], [0024], etc. of the cited document 1.

Claim: 7

Reason: 1

Cited documents: 1 to 5

Remark: 3

In Fig. 1 of the cited document 3 and in cited document 5, it is described to provide a line conductor on the same plane as the antenna element on the grounded conductor.

Claim: 8

Reason: 1

Cited documents: 1 to 5

Remark: 4

See the paragraphs [0019], [0024], etc. of the cited document 1.

Claim: 9

Reason: 1

Cited documents: 1 to 5

Remark: 5

In Fig. 1 of the cited document 1, an antenna where the grounded conductor is provided to the entire surface of the dielectric material substrate is described.

Claims: 10, 11

Reason: 1

Cited documents: 1 to 4

Remark: 6

See the paragraph [0014], etc. of the cited document

2.

Claims: 12, 13

Reason: 1

Cited documents: 1 to 4

Remark: 7

See the paragraph [0010], etc. of the cited document

3.

Claim: 14

Reason: 1

Cited documents: 1 to 4

Remark: 8

See the paragraphs [0003] and [0011], etc. of the cited document 2.

Claims: 15, 16

Reason: 1

Cited documents: 1 to 4, 6

Remark: 9

See the paragraph [0024], etc. of the cited document

6.

Reason: 2

The claim 9 describes "each of said plurality of line conductors forming a high-frequency transmission line together with said antenna-ground plane." such description cannot be found in the detailed description of the invention.

Therefore, the invention of claim 9 is different from the invention described in the detail description of the invention.

Reason: 3

It is not obvious that the "line conductor" described in claim 8 is identical to the "line conductor" described in the 7 cited in the claim 8. Therefore, the invention of claim 8 is ambiguous.

Reason: 4

In the paragraph [0022] of the specification, it is described, "none of antenna line is employed, and active region 1a formed in semiconductor substrate 1 is used as an antenna connection." Therefore, the active region 1a is described in the Fig. 12 but above

description does not clearly disclose with what structure and with which method, the power is fed. Therefore, the description "said antenna connection is an active region formed in said semiconductor substrate." is also ambiguous. (Namely, the power feeding structure including the structure of the part other than the active region and the power feeding method must be described practically in the document such as written opinion, etc.)

Since the application content of the subject application is ambiguous, examination of requirements of patentability such as novelty and inventive step is not performed. Moreover, if reason of rejection is newly found, such new reason of rejection will be notified.

#### LIST OF CITED DOCUMENT

##### NOTE

1. JP,09-284031A
2. JP,06-152237A
3. JP,08-056113A
4. JP,10-079623A /
5. JP,05-055826A
6. JP,09-237867A